

Down the Worm Hole

Backyard Wisdom - December 2020

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Most of us have had a lot more time to be observing our own back yard this year. In your wanderings have you noticed little 1/2 inch mounds of soil often with pencil sized holes right in the center? What you're looking at is the work of 250,000 native earth worms as they farm your back yard soil. What are they doing? They're coming up to the surface, grabbing leaves, pulling them into their burrows and eating them.

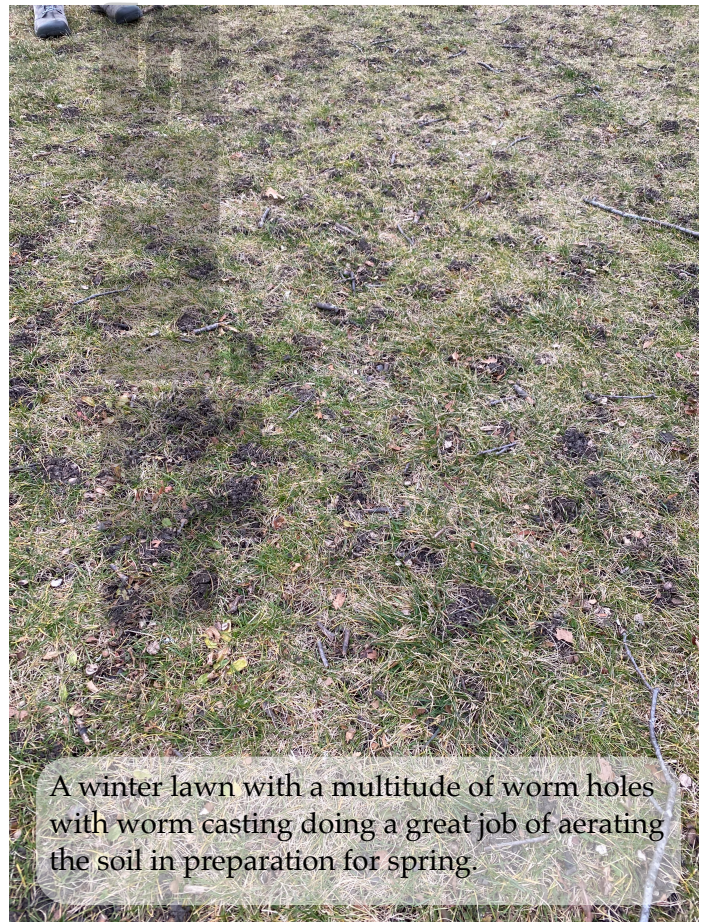
Are those lumps harming my landscape? Quite the opposite, those hungry worms make your landscape more and more productive. In fact, Charles Darwin said, "It may be doubted that there are any other animals which have played such an important part in the history of the world as these lowly organized creatures."¹ After his important and controversial *Origin of the Species*, Charles Darwin and his children went out in the early morning and late on rainy nights to study the lowly worm. Wouldn't that have been fun, studying worms with Charles Darwin? *"Oh Dad, do we have to go out and watch the worms again!"*

Here are some of the reasons that Darwin spoke so highly of worms.

1. They remove litter on the soil surface. Have you ever wondered where all the fallen leaves on the forest floor have gone in the spring? **Worm food.**
2. Those leaves (which are not digestible by plants) pass through the worms stomach and thereby become plant available food with added microorganisms and chemical bonds (chelation) that keeps the minerals from washing away.
3. The worms bring essential minerals from deeper in the soil like calcium and phosphorus and make them available to plants.
4. Worm burrows allow roots to penetrate deeper into the soil.
5. Worm burrows allow better water penetration and better water holding capacity in the soil.



worm hole showing that the soil is being decompressed in a pathway



A winter lawn with a multitude of worm holes with worm casting doing a great job of aerating the soil in preparation for spring.

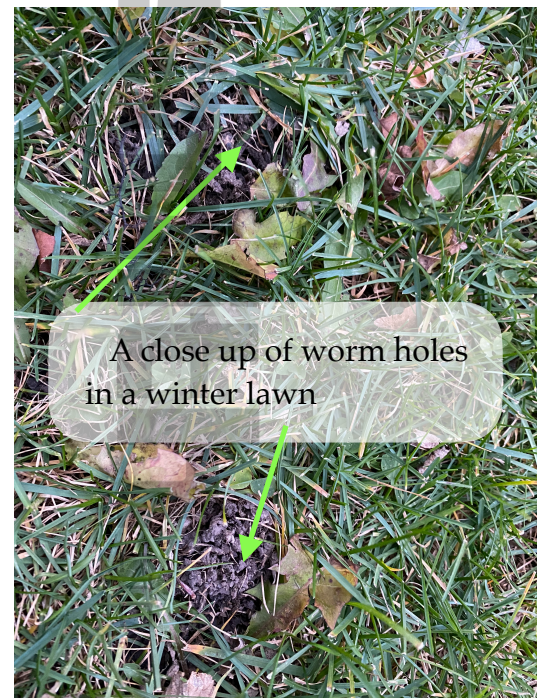
6. Worm burrows allow better air circulation which give roots air to breathe.
7. The digested leaves from worms attract and feed essential beneficial fungi and bacteria which increase root effectiveness by 10 to 100 times and protects plants from diseases and insects. (See wisdom article on *Journey into the Underworld of Trees*)
8. Worm digested leaves increase plant available Nitrogen, Phosphorus, Potassium, Calcium, Zinc, Boron...you get the idea.
9. Worms eat bad nematodes.
10. Worm activity builds stable soil structure which breaks soil hard-pan and fights soil compaction.
11. Everyone knows that worms are an important food source for Robins but you may not know that many, many birds eat worms and so do Turtles, Foxes and Bears.
12. Worms remove thatch from your lawn.
13. There may be 250,000 to 1,000,000 worms per acre of soil which digest 20 to 40 tons and fertilize your soil with the equivalent of 1 ton of manure per Acre.^{2*}

No wonder Charles Darwin and his kids were impressed! What we've learned since Darwin is that, **the more worms you have, the better your soil health will be.** *All of which will make your plants healthier!*

So what happens when the worms come to the surface and there are no leaves to eat? It doesn't take an entomologist or agronomist to tell you that *the worms die from lack of food, so the soil fertility decreases which makes the plants in your yard (yes, even your lawn) become less and less healthy.*

How do we keep our lawns, our landscapes and our worms healthy and save money at the same time?

- Keep those valuable leaves on your property. Mulch-mow them on the lawn and leave them in non grass beds forever. (Read Wisdom From the Trees article: *Why Waste Natural Resources in Your Own Back Yard.*)
- Don't over fertilize. In our attempts to help our lawn we may be tempted to put lots of chemical fertilizer to green our lawns and trees. The worms are already fertilizing for free. Too much chemical fertilizer has proven to harm worms.
- Don't use fungicides, insecticides, or herbicides (dandelion killers) if you can avoid them. I like dandelions and so do the worms. If you or your landscaper decide to use pesticides then **insist on spot treatments only, which limits the toxic effects of pesticides by 95%.** Do not use weed and feed though, it may seem easier but it may kill as much as 50% of your worms, pollute our lakes, and starve our birds.



1* The Formation of Vegetable Mould Through the Action of Worms Charles Darwin
1881

2* Pesticide Toxicity to Earthworms by Daryl Pulis published by Walter Reeves, The
Georgia Gardner

